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PATENT  
Attorney Docket No. 13013US01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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PATENT APPLICATION OF:

GERARD F. McLEAN and  
JEREMY LINDSTROM

SERIAL NO. 09/720,437

INTERNATIONAL APPL'N NO.  
PCT/GB99/02073

INTERNATIONAL FILING DATE:  
JULY 1, 1999

FOR: A PRINTED CIRCUIT BOARD  
SEPARATOR FOR AN  
ELECTROCHEMICAL FUEL  
CELL

GROUP ART UNIT: \_\_\_\_\_

EXAMINER: Not yet assigned

CERTIFICATE OF MAILING

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Commissioner for Patent  
Washington, D.C. 20231,  
this date:

April 10, 2001  
Robert W. Fieseler  
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Registration No. 31,826  
Attorney for Applicants

TC 1700

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Applicants submit herewith a copy of each of the  
following references for consideration in connection with  
the above application.

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<u>U.S. Patent No.</u>	<u>Inventor(s)</u>	<u>Issue Date</u>
4,826,554	McIntyre et al.	05/89
4,988,583	Watkins et al.	01/91
5,108,849	Watkins et al.	04/92
5,252,410	Wilkinson et al.	10/93
5,607,785	Tozawa et al.	03/97

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<u>Foreign Document No.</u>	<u>Country</u>	<u>Publication Date</u>
u 60-101881✓	Japan	06/85
2 306 540✓	France	03/76
WO 88/01310✓	PCT	02/88
38 12 813✓	Germany	06/89
1-2092759✓	Japan	11/89
u 5-314999✓	Japan	11/93
8-50903✓	Japan	02/96
8-138700✓	Japan	05/96
WO 97/08766✓	PCT	03/97
0 785 588✓	Europe	07/97
9814123.7	Great Britain	07/98

<u>Other Publications</u>	<u>Author</u>	<u>Date</u>
"A Printed Circuit Board Approach to Measuring Current Distribution in a Fuel Cell," <i>Journal of Applied Electrochemistry</i> 28	Cleghorn et al.	07/98

The above references are listed on the enclosed Form PTO-1449 entitled "Information Disclosure Citation."

Concise Explanation of the  
Relevance of the Cited References

McIntyre et al. U.S. Patent No. 4,826,554 discloses a method for making an improved solid polymer electrolyte electrode using a binder, and a sinuously-formed electrically conductive, hydraulically permeable matrix embedded into the membrane sheet.

Watkins et al. U.S. Patent No. 4,988,583 discloses a fluid flow field plate for use in a solid polymer electrolyte fuel cell. The plate has a single continuous open-faced channel formed in a major surface of the plate. The channel traverses a major central area of the surface in a plurality of passes.

Watkins et al. U.S. Patent No. 5,108,849 discloses fluid flow field plates for use in solid polymer electrolyte fuel cells. The plates include multiple continuous open-faced channels, each of which traverse the central area of the plate surface in a serpentine manner.

Wilkinson et al. U.S. Patent No. 5,252,410 was cited in the Search Report (copy enclosed herewith) issued in connection with British Patent Application No. 9814123.7,

which was relied upon for priority by PCT/International Application No. PCT/GB99/02073, from which the present U.S. application is derived. The Search Report sets forth the relevance of the reference in the view of the British Patent Office.

Tozawa et al. U.S. Patent No. 5,607,785 was cited in the Search Report (copy enclosed herewith) issued in connection with British Patent Application No. 9814123.7, which was relied upon for priority by PCT/International Application No. PCT/GB99/02073, from which the present application is derived. The Search Report sets forth the relevance of the reference in the view of the British Patent Office.

Japanese Patent Publication No. 6-101881 was cited in the International Search Report (copy enclosed herewith) issued in connection with the PCT/International application No. PCT/GB99/02073, from which the present U.S. application is derived. The International Search Report sets forth the relevance of the reference in the view of the International Searching Authority. The applicants have not obtained a full-text English language translation of the Japanese language publication, but are willing to obtain and provide such a translation upon request.

French patent Publication No. 2 306 540 discloses an undulate electrolyte layer fuel cell and technique for construction of a non-planar electrolyte layered molten carbonate fuel cell. The applicants have not obtained a full-text English language translation of the French language publication, but are willing to obtain and provide such a translation upon request.

PCT/International Publication No. WO 88/01310 was cited in the International Search Report (copy enclosed herewith) issued in connection with the PCT/International application, No. PCT/GB99/02073, from which the present U.S. application is derived. The International Search Report sets forth the relevance of the reference in the view of the International Searching Authority.

German Patent Publication No. 38 12 813 discloses an undulate electrolyte layer fuel cell and technique for construction of a non-planar glass electrolyte layer fuel cell. The applicants have not obtained a full-text English language translation of the German language publication, but are willing to obtain and provide such a translation upon request.

Japanese Patent Publication No. 12-92759 discloses undulate layers in a non-planar electrolyte molten carbonate fuel cell and a way of obtaining the non-planar structure. The applicants have not obtained a full-text English language translation of the Japanese language publication, but are willing to obtain and provide such a translation upon request.

Japanese Patent Publication No. 5-314999 was cited in the International Search Report raised in connection with the PCT/International application No. PCT/GB99/02073 (copy attached herewith), from which the present U.S. application is derived. The International Search Report sets forth the relevance of the reference in the view of the International Searching Authority.

The applicants have not obtained a full-text English language translation of the Japanese language publication, but are willing to obtain and provide such a translation upon request.

Japanese Patent Publication No. 8-138700 was cited in the International Search Report raised in connection with the PCT/International application No. PCT/GB99/02073 (copy

attached herewith), from which the present U.S. application is derived. The International Search Report sets forth the relevance of the reference in the view of the International Searching Authority. The applicants have not obtained a full-text English language translation of the Japanese language publication, but are willing to obtain and provide such a translation upon request.

PCT/International Publication No. WO 97/08766 was cited in the Search Report (copy enclosed herewith) issued in connection with British Patent Application No. 9814123.7, which was relied upon for priority by PCT/International Application No. PCT/GB99/02073, from which the present U.S. application is derived. The Search Report sets forth the relevance of the reference in the view of the British Patent Office.

European Patent Application No. 0 785 588 was cited in the Search Report (copy enclosed herewith) issued in connection with British Patent Application No. 9915284.5, which was relied upon for priority by PCT/International Application No. PCT/GB99/02073, from which the present application is derived. The Search Report sets forth the

relevance of the reference in the view of the British Patent Office.

British Patent Application No. 9814123.7 entitled "Electrochemical Fuel Cell Having a Non-Planar Membrane Electrode Assembly" discloses undulate tube cell stack configurations. The undulate MEA fuel cell stack configurations include extended parallel reactant gas conduits that lend themselves to end connection or coupling to supply and exhaust plena for reactant gases.

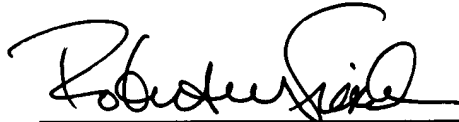
The 1998 publication by Cleghorn et al. entitled "A Printed Circuit Board Approach to Measuring Current Distribution In a Fuel Cell" was cited in the International Search Report (copy enclosed herewith) issued in connection with the PCT/International application, No. PCT/GB99/02073, from which the present U.S. application is derived. The International Search Report sets forth the relevance of the reference in the view of the International Searching Authority.

This Information Disclosure Statement is being submitted before the receipt of a first Office Action on the merits of the application.



Please charge any fees incurred in connection with  
this submission to Deposit Account No. 13-0017 in the name  
of McAndrews, Held & Malloy, Ltd.

Respectfully submitted,



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Dated: April 10, 2001